

Definitions

What is an intelligence? How can we define term "intelligence"? I will make my own definition: an ability to efficiently solve problems.

What about wisdom? I define wisdom as an ability to get through without an intelligence. Sort of backdoor.

Intelligence is directly related to the knowledge we collect from all available sources while wisdom to an experience we pass during course of our life.

We can define Artificial Intelligence (AI) as computational equivalent of a human mind.

Humans claim that they are the most intelligent specie on Earth. How pretentious. Actually, humans are only specie that continuously destroy Earth, eco-systems belonging to the Earth, enslave others and in recent

decades they started to leave junk around the planet polluting oceans and atmosphere. Judging by this four criteria I would never make such a claim. On contrary, I see humanity as mere parasites both collectively and individually with due respect to exceptions. My extreme guess is that in the wider cosmic frame we could be nothing more than malicious pathogens.

Many, many and very hard!

"We are the only one in an entire Universe! Where are others if any?" - from day to day our ignorance is bolstered by religious and scientific authorities.

There is a thing called Drake equation, perhaps you already heard about it. It is considered to be a probabilistic argument, formulated by astrophysicist Frank Drake and first discussed in 1961. on the SETI conference held in Green Bank, Washington, used to estimate the number of developed extraterrestrial civilizations in the Milky Way galaxy. The result is mind-blowing: just the Milky Way galaxy alone contains, roughly, from 1.000 to 100.000.000 (100 hundred million) advanced civilizations. Later derivations reduced this number to be around 10.000! Still mind-blowing if true.

$$N = R^* \times f_p \times n_e \times f_l \times f_i \times f_c \times L$$

R^* - rate of star formation, f_p - star fraction with planetary systems, n_e - number of planets suitable for evolution of biological forms, f_l - fraction of the planets on which life does emerge, f_i - fraction of the planets on which life does evolve regarding the intelligence factor, f_c - fraction of the planets on which existing civilization develops a means for interstellar communication, L - average lifetime of such a civilization.

Source:

<https://www.seti.org/drake-equation-index>

People then ask if there are so many other civilizations why didn't we encounter anyone else besides ourselves? Let us ignore the U.F.O. sightings and estimate based on the Drake equation. Just the vastness of spacetime alone makes it absolutely possible for many, many other civilizations to exist. But the same vastness also makes it very hard to meet them. It is like a coin with two sides: "many, many" and "very hard".

One possible solution could be that prior civilizations already destroyed themselves in internal or mutual conflicts. Are we on the same path as well? Easily, there is enough nuclear and (bio)chemical weapons on Earth to wipe out entire humanity like a little dirt spot with a handkerchief in the matter of

hours or few days at best.

Do you know what is a "slime mold"?

It is a single-cell fungus micro-organism which has no sexual reproductive capability but transcript itself, feeding on an organic matter, through a process called spores formation. When scientists compared the distribution of a galaxy clusters and galaxies in the Universe they found striking similarity with the ordinary slime mold growth. It looks that intelligence is identical regardless of its respective source, being it fungus or Cosmos, it is the final product that matters.

Source:

<https://www.nasa.gov/feature/goddard/2020/slime-mold-simulations-used-to-map-dark-matter-holding-universe-together>

Human brain

Each human has a central unit, called brain, that has two main purposes - 1) it operates numerous vital functions autonomically, involuntary and 2) it serves as the thinking processor directed by our own consciousness.

Brain gathers informations from the body detectors (eyes/view, ears/hearing, nose/smell, tongue/taste, skin/touch) constantly perceiving things in its surroundings and behaviours of other entities accordingly adapting its own attitude toward reality which is our entire environment including the area beyond our personal sensory horizon - called "extra sensory perception" (ESP) phenomenon. Immediately we notice how small our view is: we are utterly restricted as an individuals. For example, visible EM spectrum is 400-700 nm, normal auditory field between 20 Hz and 20 kHz. What about Gamma radiation, X-ray, ultraviolet, infrared, micro and radio waves? What about infra- and ultrasounds? We need special equipment to observe the Universe. We are practically blind and deaf beyond our narrow understanding. We depend on light and ether (medium) to see and hear.

Brain has two hemispheres each consisting of up to 50 billion neurons, or up to 100 billion neurons total, connected by synapses (transmission nodes). Unfortunately, vast majority of people purposefully uses only a small amount of the mentioned while the rest is dedicated to a pleasure (leisure) or left to deteriorate invain.

Neurons are supported with glial cells.

New number discovered by neuroscientist Suzana Herculano-Houzel is 86 billion neurons total or 43 billion in each half of a human brain. There is same number of non-neuron cells of which 20% are endothelial and 80% are glial.

Human brain weights 1.2 kg.

Comparison

Micron`s V-NAND (232 layer, transfer rate of 2400 MT/s) flash memory chip has 5.3 trillion transistors each containing 3 bits. It is about 16 trillion bits total enabling a huge storage capacity on a 11.5mm x 13.5mm volume of area.

Source:

232-Layer NAND | Micron Technology, Inc

MT/s is abbreviation for megatransfers (million transfers) per second.

As we can see, computing technology has overcome human brain with respect to a memory potential. What about thinking ability? Is there a better comparison than one found in the game of chess?

Back in 1988. "Deep Thought" chess computer won playing against the grandmaster Bent Larsen. It was subsequently defeated by Gary Kasparov.

"Chess Genius" program in 1994. won against world champion Kasparov but lost in the second round of the tournament against the Viswanathan Anand who had an opportunity to analyse the program`s weaknesses during its earlier match with Kasparov.

In 1996. Kasparov played a six-game match against IBM's Deep Blue. He lost

the first game but won overall.

In 1997. an updated version of the "Deep Blue" defeated Kasparov in a tight clash.

In 1998. "Rebel 10" chess program defeated the Viswanathan Anand.

In 2000. "Deep Junior" program played 9 grandmasters resulting in the 50% efficiency.

In 2002. Vladimir Kramnik and "Deep Fritz" competed ending in a draw.

Deep Fritz 14 features a 64-bit engine, and can support up to eight processor cores simultaneously. I wonder what would happen if they had DF14 in 2002.

In 2003. Kasparov vs "Deep Junior" ended in a draw.

In 2004. Ruslan Ponomarev, Veselin Topalov and Sergey Karjakin played against computer Hydra and programs "Fritz 8" and "Deep Junior". They lost. Same thing happened in 2005.

In 2006. Kramnik lost against the "Deep Fritz"...

Although, there were newer encounters between computers and programs on one side and grandmasters on other, we can conclude with certainty that Artificial Intelligence at least leveled a human thinking ability long ago. Now imagine introducing contemporary chipsets like V-NAND in the picture. Or better yet, quantum computing. It is not all about processing power - written algorithm is very important. Best efforts so far are "Fritz", "Junior" and Rybka.

What are an obvious advantages of the computer/program chess engines over their human adversaries? They do not get tired, hungry, sleepy or excited - they are calm, emotionless, ready at all times to perform with maximum focus.

Examples of an A.I. already in use today

Voice auxiliary

AI chatbot (virtual agent)

A. I. search engines

Nuclear fusion control, weather forecast and microbiology

Vehicles (computer vision)

Wikipedia / ClueBot NG

This are just some examples I have found. There are many other applications and systems already using artificial intelligence today.

Types of human intelligence

Psychology separates different kinds of human intelligence: cognitive, creative, emotional, social, etc. I have even found nine-element (9-element) differentiation made by psychologist Gardener in 1983.: Naturalist (nature smart), Musical (sound smart), Logical-mathematical (number/reasoning smart), Existential (life smart), Interpersonal (people smart), Bodily-kinesthetic (body smart), Linguistic (word smart), Intra-personal (self smart), Spatial (picture smart).

It is a misconception.

There is only one type of intelligence, same as there is only one brain per human, which can be applied more in one than another direction. It is like filling same glass of water with nine (9) different fluids and declaring each situation as a particular glass of water. No, it is the same glass but differently filled.

For example,

some children play with others and develop social intelligence.

Some children calculate and develop mathematical intelligence.

Some children fantasize and develop creative intelligence.

In each case intelligence is unique to start with.

Some children are overly exposed to the religious influence.

They are intellectually ruined for the rest of their life.

Human brain structure

Cerebral cortex, or gray matter, is outermost layer of the brain's nerve cell tissue. Its surface has many wrinkles which consist of numerous deep channels, sulci, and raised areas, gyri. It has 14-16 billion neurons. It is divided into the four lobes: frontal, parietal, temporal and occipital.

Cerebral cortex is gray because nerves lack the myelin (fatty insulation). Can someone explain to me why are our brains exposed in such manner? The outermost layer lacks fatty insulation. This is very suspicious circumstance because it makes our brains susceptible to all kinds of environmental (originating somewhere around us) transmissions. Certain denominations use head coverings. This is an interesting fact. Our brains look like antennas receiving waves (data) from who knows where and what. But let us leave it here for now and come back later to this issue.

Cerebrum is the largest area of a brain divided into two hemispheres which are attached by nerve fibers bundle called the corpus callosum enabling the two hemispheres to mutually communicate.

Each lobe has its specific functions:

Frontal - (prefrontal cortex): decisions, solving problems, consciousness, attention, emotions and behavior, personality, intelligence, speech (Broca's area), movement (motor cortex).

Parietal - body sensors data processing, spatial orientation.

Temporal - memory, sounds.

Occipital - visual interpretation, object and facial recognition, depth and distance perception.

<https://primary.jwwb.nl/public/z/h/o/temp-fjndzoiqqbsgaxnmadu/cerebral-cortex.jpg>

(continued for the subscribers only)

List of topics discussed in the subscription section which is e-mailed to the subscribers both in the .doc and .pdf format together with the prior, public part:

Intellectual ascent

Human brain anatomy and physiology

Neuron structure

Neurocranium

Glands function (hormone release)

Receptors

Brain wavelenghts and frequencies

Proper feeding (nutrient intake), hydration, resting and active brain usage

Circadian rhythm (internal bioclock)

What are consciousness, self - consciousness and sub-consciousness?

Thought formation process

Psychological and IQ tests

Conclusion